USFS KIT PRICE CAMPGROUND (PWSNO 1400066)
SOURCE WATER ASSESSMENT FINAL REPORT

March 11, 2003

State of Idaho
Department of Environmental Quality

SOURCE WATER ASSESSMENT FOR USFS KIT PRICE CAMPGROUND

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For transient water systems like USFS Kit Price Campground, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for USFS Kit Price Campground* describes factors used to assess the well's susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use, well site characteristics and potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for USFS Kit Price Campground is attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Well Construction. The USFS Kit Price Campground well provides drinking water for an average of 47 people per day over a 154-day period that extends from late Spring through early Fall. The well was drilled in May of 1980 and went into service for the 1981 season. It was drilled to a depth of 50 feet and produces an average of 16 gallons per minute. The 6-inch steel well casing extends from 3-feet above grade to 25 feet below the surface where it terminates in granite and, with the exception of a minor deviation in casing thickness, the casing meets Idaho Safe Drinking Water Standards. An 18-foot deep surface seal extends into gravel, boulders and clay. The surface seal does not meet the Idaho Department of Water Resources' Well Construction Standards because the seal does not extend into the consolidated formation. Water was encountered at the 18-foot level. The surface seal material consists of cement grout. The static water level is 8 feet below ground. The well has a submersible pump that feeds 7 hydrants that are scattered across the 4 loops of campsites. The system also incorporates a 5,000-gallon concrete reservoir with a submersible pump that is run with a generator by the host who assumes the chlorinating responsibilities. In 1993, a new pump and a water meter were installed. An LP-fueled generator was also installed that year to replace the gasoline generator.

Well Site Characteristics. This campground is located on the North Fork of the Coeur d'Alene River, 11 miles north of Prichard. The North Fork of the Coeur d'Alene River crosses through the delineated recharge zone. The river is 500' from the wellhead. The campground consists of 2 host and 70 campsites spread across four loops. The land on this campground is flat and the well site is located about 20 feet from the main entrance to the campground. The campground and the well sit between the paved North Fork Coeur d'Alene River (NFCDAR) Road and the North Fork of the Coeur d'Alene River. The land on either side of the road and the river is relatively steep and hilly. A 5,000-gallon concrete reservoir is located upon a hill on the opposite side of NFCDAR Road. The Sanitary Survey that was completed in July of 2000 stated that the tank was in great shape. The soils in the 1,000-foot radius delineated around the USFS Kit Price Campground well are considered moderately well drained to well drained.

Potential Contaminant Inventory. The potential sources for contamination in the recharge zone are the campground, the paved road, the propane fuel tank and generator, the vaulted toilets and the river. The well is 500' from the river and appears to be located outside of the flood-zone. The well is located in, roughly, the center of the campground, near the entrance. The NFCDAR Road is about 100 feet from the wellhead. 8 vault toilets exist throughout the 4 loops of the campground. The nearest vault to the well is about 200 feet away. A Ground Water Under Direct Influence (GWUDI) report was completed on June 19, 2000 that determined the well to be a source of ground water.

Water Quality History. Baseline testing in September of 1980 showed the presence of Iron and Manganese that exceeded the Recommended Maximum Contaminant Level (RMCL). The well has sporadically tested positive for trace amounts of Nitrates. The Nitrate levels ranged from non-detect to 0.046 mg/l and the Maximum Contaminant Level (MCL) is 10.0 mg/l. No other chemical tests have been positive since 1980. The amounts of chemicals in the water and the date when the positive sample was drawn suggest that the contaminants were either introduced during construction or they are not present in notable levels in the ground water itself.

Historically, this well has a good history of providing safe water. Positive bacteriological results at USFS Kit Price Campground were as follows: 1992-1, 1993-1, and 1998-4. It should be noted that 1998 was a flood-year. The hypochlorinator was installed after the 4 positives in 1998. All tests since installation of the hypochlorinator has been absent for coliform bacteria.

Susceptibility to Contamination. The USFS Kit Price Campground well ranked moderately susceptible to all classes of regulated contaminants. Hydrologic sensitivity factors related to local geology added half of the points to the final susceptibility scores. The susceptibility analysis worksheet on page 6 of this report shows how the well was scored. Formulas used to compute the final susceptibility scores are at the bottom of the worksheet.

Source Water Protection. This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

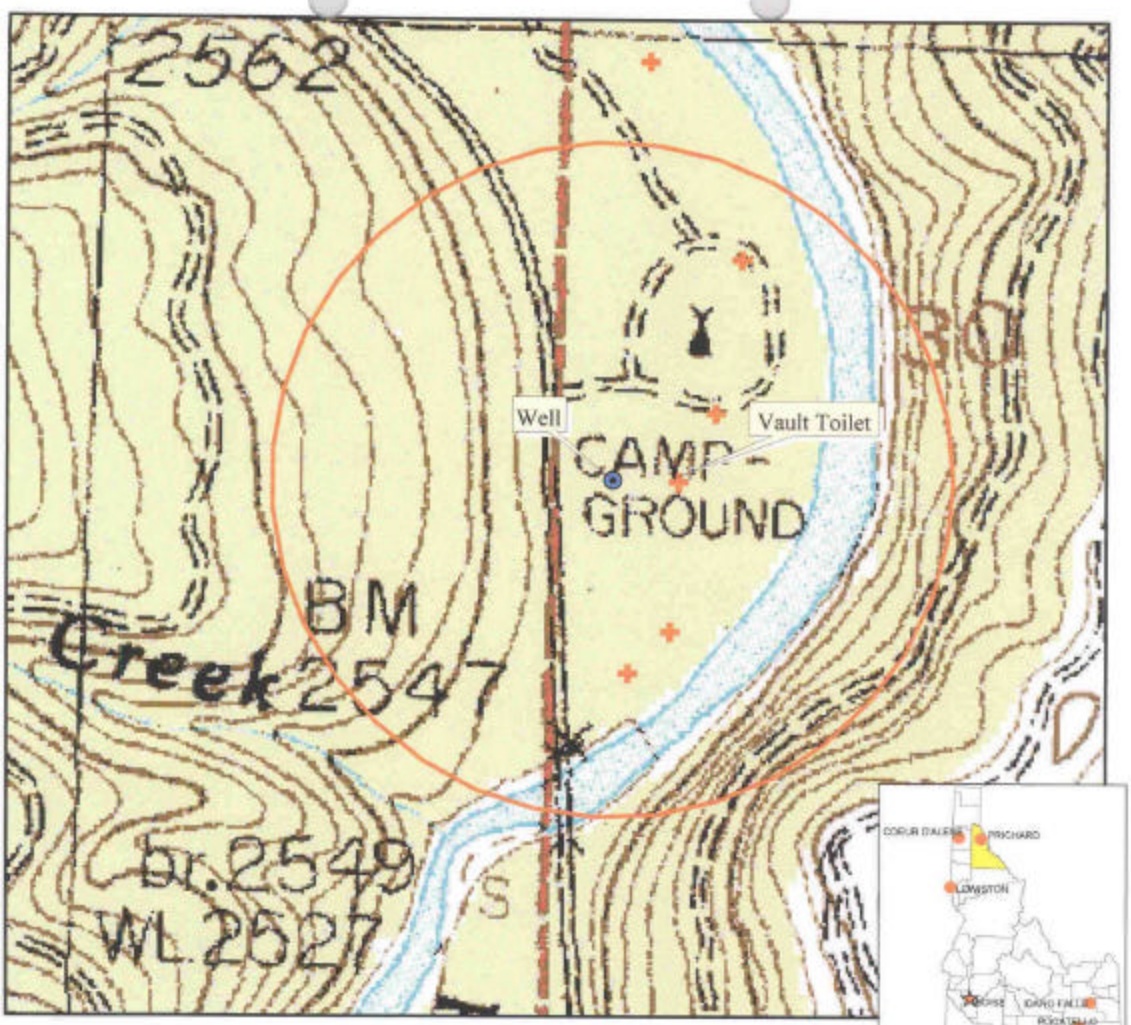
The USFS Kit Price Campground water system was in good condition and it was in compliance with the *Idaho Rules for Public Drinking Water Systems* when it was inspected in the July 2000 Sanitary Survey. The well is tested monthly instead of the required quarterly testing during the operating system. Continuing to operate and maintain the system as it has been in the past should ensure continuation of good water quality for the campground.

Source Water Protection (continued). On June 19, 2000, a GWUDI Report determined the well to be under direct influence of ground water because the well is 510 feet from the river.

In July of 2000, the only well or pump deficiency identified in the Sanitary Survey was the lack of solution in the chlorine tank that is used when the generator is turned on and the water is pumped to the storage tank. The weakest link in this chain can be the operator who should be taught water quality and chlorination. Protection efforts should also include signage to keep vehicles away from the well site and its recharge zone. Signage might read "Drinking Water Protection Area, Keep Vehicles, Pets & ALL Chemicals Away."

For assistance in developing source water protection strategies please contact Dan Remmick at the Coeur d'Alene Regional DEQ office at 208 769-1422.

Figure 1. USFS Kit Price Campground Delineation and Potential Contaminant Inventory.



500 0 500 1000 1500 2000 Feet

Legend

Wellhead	RICRIS Site	AST
Buildings	Business Mailing List	Recharge Point
Roads	Dairy	SARA Title III Site (EPCRA)
1000 Foot Buffer Zone	LUST Site	Injection Well
Mine	UST Site	Group1 Site
Enhanced Inventory	Closed	Cyanide Site
Toxic Release Inventory	Open	Landfill
CERCLIS Site	NPDES Site	Wastewater Land App.Site

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

PWS # 1400066
USFS Kit Price
Campground
Well

February 4, 2003

Ground Water Susceptibility

Public Water System Name : **USFS KIT PRICE CAMPGROUND** Well# : **WELL #1**

Public Water System Number : **1400066** 2/3/03 10:23:34 AM

1. System Construction			SCORE			
Drill Date	5/24/80					
Well Log Available	YES					
Sanitary Survey (if yes, indicate date of last survey)	YES	2000				
Well meets IDWR construction standards	NO		1			
Wellhead and surface seal maintained	YES		0			
Casing and annular seal extend to low permeability unit	NO		2			
Highest production 100 feet below static water level	NO		1			
Well located outside the 100 year flood plain	YES		0			
Total System Construction Score			**4**			
2. Hydrologic Sensitivity						
Soils are poorly to moderately drained	NO		2			
Vadose zone composed of gravel, fractured rock or unknown	YES		1			
Depth to first water > 300 feet	NO		1			
Aquitard present with > 50 feet cumulative thickness	NO		2			
Total Hydrologic Score			**6**			
			IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use			Score	Score	Score	Score
Land Use	RANGELAND, WOODLAND, BASALT		0	0	0	0
Farm chemical use high	NO		0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	NO		NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A			**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - 1000-Foot Radius						
Contaminant sources present (Number of Sources)	YES		2	1	1	2
(Score = # Sources X 2) 8 Points Maximum			4	2	2	4
Sources of Class II or III leachable contaminants or Microbials	YES		2	1	1	
4 Points Maximum			2	1	1	
1000-Foot Radius contains or intercepts a Group 1 Area	NO		0	0	0	0
Land use 1000-Foot Radius	Less Than 25% Agricultural Land		0	0	0	0
Total Potential Contaminant Source / Land Use Score - 1000-Foot Radius			**6**	**3**	**3**	**4**
Cumulative Potential Contaminant / Land Use Score			**6**	**3**	**3**	**4**
4. Final Susceptibility Source Score			**12**	**11**	**11**	**12**
5. Final Well Ranking			Moderate	Moderate	Moderate	Moderate

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

0 - 5 Low Susceptibility
6 - 12 Moderate Susceptibility
> 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.